REMARKS

As requested by the MPEP § 2001.06 and mentioned in the non-provisional application, Applicants point out to the Examiner that they have several co-pending applications:

Serial No. 09/960,641 entitled INTEGRATED NETWORK MANAGEMENT SYSTEM;

Serial No. 09/960,602 entitled SELF-CONTAINED DEMONSTRATION NODE IN A SATELLITE BASED CONTENT DELIVERY SYSTEM FOR INTERNET USERS;

Serial No. 09/960,650 entitled ARCHITECTURE FOR DELIVERING VIDEO AND OTHER DATA AT HIGH BANDWIDTHS;

Serial No. 09/960,637 entitled MOBILE NODE FOR SATELLITE BASED CONTENT DELIVERY SYSTEM;

Serial No. 09/960,649 entitled MICRONODE IN A SATELLITE BASED CONTENT DELIVERY SYSTEM;

Serial No. 09/960,249 entitled SCALABLE IP ADDRESSING SCHEME FOR MULTIPLE NOCs AND EDGE NODES;

Serial No. 09/960,843 entitled EDGE NODE ARRANGEMENT IN A SATELLITE BASED CONTENT DELIVERY SYSTEM;

Serial No. 09/960,622 entitled GLOBAL OR MULT-REGION CONTENT DELIVERY SYSTEM;

Serial No. 09/960,603 entitled END TO END SIMULATION OF A CONTENT DELIVERY SYSTEM;

Serial No. 09/960,605 entitled LARGE EDGE NODE FOR SIMULTANEOUS VIDEO ON DEMAND AND LIVE STREAMING OF SATELLITE DELIVERED CONTENT;

Serial No. 09/960,263 entitled MOBILE NETWORK OPERATIONS CENTER FOR SATELLITE BASED CONTENT DELIVERY SYSTEM;

Serial No. 09/960,246 entitled SCALABLE EDGE NODE;

Serial No. 09/960,645 entitled NETWORK OPERATION CENTER ARCHITECTURE IN A HIGH BANDWIDTH SATELLITE BASED DATA DELIVERY SYSTEM FOR INTERNET USERS;

Serial No. 09/960,270 entitled IMPROVED FILE NAMING SYSTEM WITH TRACKING AND DIAGNOSTIC FEATURES IN A CONTENT DELIVERY SYSTEM; and

Serial No. 09/960,649 entitled MICRONODE IN A SATELLITE BASED CONTENT DELIVERY SYSTEM.

Response to Detailed Action Comments

The Examiner has suggested deletion of co-pending applications from which the instant application is not claiming priority. All of the applications are provisional applications for which non-provisional applications have been subsequently filed and listed above. Applicants are claiming priority from all of the listed provisional applications.

Section 103 Rejections

The Examiner has rejected Claims 1-4, 7, and 11-1 under Section 103(a) as being unpatentable over Adrangi (U.S. Patent No. 6,651,141) in view of Hospodor et al (U.S. Patent No. 6,697,914). Applicants respectfully disagree with the Examiner's analysis.

With respect to claim 1, the Examiner asserts that "Adrangi discloses a method for processing an incoming package at an edge node, comprising: determining if enough space exists at a storage device of the edge node to decompress the package; if enough space does not exist, removing one or more previously stored files from the storage device [Adrangi, col. 2, lines 36-44, col. 7, lines 30-53 and col. 8 lines 25-41]; if the edge node is an intended recipient, ascertaining if the package is a content package or a command package [Adrangi, col. 4, lines 35-57 and col. 8 lines 25-41]; if the package is a command package, executing at least one command included in the package; and if the package is a content package, extracting the files and storing the files contained in the package [Adrangi, col. 7, line 54 – col. 8, line 7]."

The Examiner correctly acknowledges that "Adrangi does not specifically disclose extracting package information listing from the package; analyzing the extracted package information listing to discover if the edge node is an intended recipient of the package." However, the Examiner futher asserts that Hospodor "discloses package information listing [Hospodor, col. 3, lines 14-65]."

Lastly, the Examiner states that "it would have been obvious to one of ordinary skill in the art, at the time of the invention was made, to incorporate package information listing, taught by Hospodor, into the edge node system, taught by Adrangi, in

order to efficiently access the network, reduced cost and latency [sic] [Hospodor, col. 1, lines 59-63]."

Applicants respectfully disagree with several of the Examiner's assertions and the statement that the combined teaching of Adrangi's edge node system and Hospodor's package information listing would result in Applicants invention. MPEP § 2143.03 states that "To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art."

First of all, Applicants do not concur with the Examiner's assertion that Adrangi discloses a method for processing an incoming package at an edge node. Adrangi describes a proactive approach that updates cache storage files based on content popularity. Figure 7 of Adrangi is reproduced here to show his approach. In this methodology, the File Transfer Module 620 pulls files from upstream storage 630 and transfers them to Cache 640 based on instructions from Caching Analysis Module 615 and calculations from Popularity Calculation Module 610.

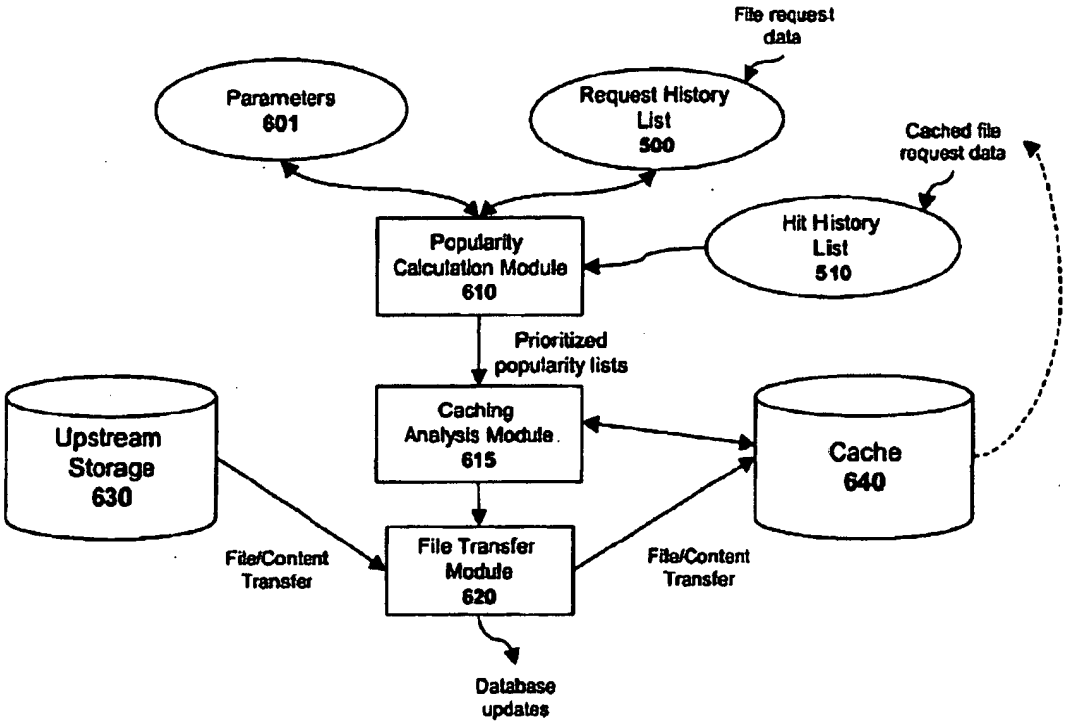

FIG. 7

In contrast, Applicants' invention is reactive, acting only when a new data package is received as evidenced in the preamble of Applicants' claim 1 " A method for processing an incoming package at an edge node, comprising." If there is no incoming package, the edge node takes no action – it does not pull content from any upstream storage as Adrangi disclosed. Thus, Adrangi's proactive pulling of files from upsteam storage to populate a cache is very different from Applicants' method for processing an incoming package at an edge node.

Secondly, Applicants dispute the Examiner's statement regarding Adrangi's determination if the edge node is an intended recipient and ascertaining if the package is a content package or a command package. Lines 50-57 of the first cited

passage in Adrangi (col. 4, lines 35-57) state: "Even though certain edge POP sites 230-234 are connected to the rest of the system over the Internet, the connection can be implemented such that the edge POPs 24-245 are part of a virtual private network ("VPN") that is administered from the data centers 220-222. Like the intermediate POPs 230-234, the edge POPs 240-245 may be remotely managed with network and system management support from one or more of the data centers." This passage and the other citation, col. 8, lines 25-41, have no stated method for commanding or managing Adrangi's edge POPs. Adrangi does not address how his edge POPs (nodes) are commanded and includes no discussion of distinguishing between command and content packages.

The Examiner has also erred in his assertion that Adrangi discloses "if the package is a command package, executing at least command included in the package." The Examiner's citation of Adrangi col. 7, line 54 – col. 8, line 7 discusses a "least popular file replacement policy " (Adrangi, col. 7 lines 55-56), and nothing about commands or command packages.

For extracting package information listing form the package, the Examiner cites Hospodor (col. 3, lines 14-65). Applicants respectfully disagree with the Examiner's statement that Hospodor discloses the extraction of package information listing as defined by Applicants. As stated in his Summary of the Invention, Hospodor's invention regards a "switched node for use in a switched fabric network" (col.1, lines 65-66). The passage cited by the Examiner discusses the use of a "conventional routing algorithm for routing requests (messages) between the nodes within and at the edge of the switched nodes 28 (the storage system, host initiators, etc.)" (Hospodor, col. 3, lines 44-

47) and states "In one embodiment, a request consists of a packet having a packet header comprising routing data which identifies the destination node for the packet" (Hospodor, col. 3, lines 47-49). This data packet structure is a well-established means for determining the destination and routing of data packets to their destinations. The data structure is a simple combination of a header containing routing information with a content portion. Applicants also point out that, contrary to the Examiner's assertion, the term "package information listing" or even "package" does not appear anywhere in Hospodor. The only related terms that appear are "data packet" and "packet header".

Applicants' package information listing is substantially different than Hospodor's packet header. As stated in Applicants' Edge Node section of the specification,

> "... the data manager extracts from the package the package information listing. This file, which may be in XML format, may contain information, such as, for example, the package type (e.g. command or content file), identification codes of EN500 who is one of the intended recipients of the package, the package's identification code, and the package's creation date. If the package is a content containing package, it may additionally include in the package information listing an indication of the content files contained within the package. This listing may also note for each file the file's expiration date, the server type or specific server it was meant for, and the start date for the file.
>
> If the package is a command-containing package, then the package information file may contain one or more commands and depending on the type of command, additional information needed for executing the command or commands, such as, for example, a listing of files contained in the package which are necessary for performing an update. In other embodiments, the information listing may not contain actual commands and instead may include a listing of files within the package that contain the commands and any additional information relevant to executing the commands."

This passage shows that Applicants' package information listing is far more complicated than simply routing information. It can be a file of variable length containing a number of different pieces of information regarding the contents of the

package such as its identification code, creation date, expiration dates, commands, and or file listings. As stated in MPEP § 2141.02, the properties of the subject matter inherent in the specification must be considered along with the claims:

> "In determining whether the invention as a whole would have been obvious under 35 U.S.C. 103, we must first delineate the invention as a whole. In delineating the invention as a whole, we look not only to the subject matter which are inherent in the subject matter *and* are disclosed in the specification...Just as we look to a chemical and its properties when we examine the obviousness of a composition of matter claim, it is this invention *as a whole*, and not some part of it, which must be obvious under 35 U.S.C. 103" In re Antonie, 559 F.2d 618, 620, 195 USPQ 6,9 (CCPA 1977) (emphasis in original) (citations omitted)

Consequently, in Applicants' claim 1, the steps of analyzing the extracted package information listing, ascertaining if the package is a content or command package, and acting accordingly is a very different process than Hospodor's routing of packages based on the content of packet headers.

Therefore, because of the differences between Adrangi's method and Applicants', the differences between Hospodor's packet header and Applicants' package information listing, and the failure of the combination of Adrangi and Hospodor to include all of the elements of Applicants' claim 1, namely extracting and analyzing the package information listing, and processing the package based on the contents of the package information listing, Applicants respectfully submit that the invention of claim 1 would not have been obvious to a person of ordinary skill in the art.

The Examiner has also rejected claims 2 – 4, and 7 under Section 103(a) as being unpatentable over Adrangi in view of Hospodor. Applicants respectfully disagree. Claims 2 - 4 and claim 7 depend from claim 1 and therefore would not have been obvious for the same reasons that claim 1 would not have been obvious.

Furthermore, Adrangi's method for identifying files for deletion is based on popularity indicators as evidenced in the following "Accordingly, what is needed is a more intelligent system and method for caching popular network content." (Adrangi, col. 2, lines 5-7). This is significantly different than Applicants' claim 2, "identifying all previously stored files in the edge node's storage space that are expired or marked for forced deletion". Expiration indicates that a file is no longer needed based on time or need, not popularity and, therefore, is not disclosed by Adrangi as a criterion for deletion. Applicants' claims 3 and 4 depend from claim 2 and similarly identify files designated for deletion based on expiration. Consequently the same reasoning applies for these two claims as well.

With respect to claim 4, the Examiner further asserts that "Adrangi-Hospodor further discloses ... iteratively performing the ascertaining and deleting of one or more previously stored files that are expired until the edge node has enough storage space to decompress the package or no previously stored files that are expired exist" [omission of a portion of Examiner's statement is made for brevity]. Applicants' respectfully disagree with this statement. The cited passage in Adrangi – col. 7, line 30 through col. 8, line 49 – makes no mention of an iterative process to determine that sufficient storage space exists to accommodate an incoming package, nor is an iterative process mentioned anywhere else in Adrangi.

Therefore, for the above reasons, Applicants' respectfully request that claims 2-4 and 7 be reconsidered.

In rejecting claim 11, the Examiner asserts, "Adrangi-Hospodor further discloses verifying successful receipt of the package prior to extracting the package

information listing." Applicants respectfully disagree with this statement. The cited passage in Adrangi (col. 4, lines 35-57) describes Adrangi's edge POPs and their connectivity. Although remote management and VPN connectivity are discussed, there is no mention of verifying successful receipt of a package, let alone prior to extracting packet information listing. Applicants would further like to point out that the Examiner's own analysis is inconsistent with this statement because in paragraph 5, the Examiner states "Adrangi does not specifically disclose extracting package information listing from the package."

The cited passage in Hospodor also doesn't discuss receipt of data packages. This passage discusses switched nodes, the execution of a conventional routing algorithm, and relevant delivery mechanisms. There is no mention of the details of delivery, let alone verifying successful receipt of data packages.

Moreover, claim 11 also depends from claim 1 and therefore would not have been obvious for the same reasons that claim 1 would not have been obvious. Therefore, because neither Adrangi nor Hospodor disclose verifying the receipt of data packages and because claim 11 depends from claim 1, Applicants respectfully request reconsideration of claim 11.

In rejecting claims 12-18, the Examiner asserts "claims 12-18 have similar limitations as disclosed in claims 1-4, 7 and 11. Therefore, the similar limitations are disclosed under Adrangi-Hospodor for the same reasons set forth in the rejection of claims 1-4, 7 and 11 [Supra 1-4, 7 and 11]." Applicants respectfully disagree and will discuss a number of these claims 12-18 individually below.

Claim 12 is an independent system claim for "processing a package at an edge node." For clarification, the preamble of claim 12 has been amended to "processing an incoming package at an edge node." The arguments which Applicants made regarding claim 1 also apply to claim 12, namely that Adrangi's method is different than Applicants'. Furthermore, Hospodor's packet header is different from Applicants' package information listing and the combination of Adrangi and Hospodor fails to include all of the elements of Applicants' claim 1, namely extracting and analyzing the package information listing, and processing the package based on the contents of the package information listing. Furthermore, claim 12 contains limitations regarding the elements of an edge node for processing an incoming package and their relationships not disclosed in the prior art. These limitations include, "a storage device containing one or more previously stored files; a database containing information related to the one or more previously store files in the storage device; and a data manager linked to the storage device and the database." The prior art does not include this combination of elements.

Claim 13 expands on the storage device of claim 12 by stating "where the storage device includes a shared storage device." As stated in the Edge Node section of Applicants' Detailed Discussion of the Figures, the "Shared storage 512 is storage shared by multiple servers 510 of EN [edge node] 500." No similar structure is described either in Adrangi or in Hospodor.

Claim 15 discusses the contents of the database of claim 12 stating "where the information contained in the database related to the one or more previously stored files includes, for each previously stored file, an indication of whether the respective previously stored file is marked for forced deletion and an indication of whether the

respective previously stored file is expired." As mentioned earlier, Adrangi does not disclose expiration or time as a criterion for deletion.

Claim 16 is similar to claim 4 in describing an iterative process for deleting files. Again, Adrangi makes no mention of an iterative process for ascertaining sufficient space and deleting files.

Claim 17 discloses a back channel connecting the edge node and a NOC. No previous claim discloses a back channel; therefore, a rejection of claim 17 and further dependent claim 18 based on similar limitations is incorrect.

Therefore, for the reasons stated above, Applicants respectfully submit claims 12-18 would not have been obvious to a person of ordinary skill in the art.

The Examiner has rejected claims 5, 6, 8-10 and 19 "as being unpatentable over Adrangi-Hospodor as applied to claims 1 and 12 above, and further in view of Strandberg et al. ("Strandberg"), USPN 6,647,412" and asserts "Regarding claims 5, 6, and 19, Adrangi-Hospodor substantially discloses the claimed invention." The Examiner acknowledges, "Adrangi-Hospodor does not specifically disclose a package is a command packaged and is transmitted through a back channel and a message describing the status of the edge node is transmitted to a NOC through a back channel connected the edge node and the NOC." The Examiner then asserts "However, Strandberg, in the same field of endeavor, discloses status of an edge node is transmitted to a NOC through a back channel connected the edge node and the network operator (originator of the command package)." The Examiner further asserts "It would have been obvious to one of ordinary skill in the art, at the time of the invention was made, to incorporate

messaging on a back channel, taught by Strandberg, into the edge node system, taught by Adrangi-Hospodor, in order to adequately respond to dynamic network conditions."

Applicants disagree with the Examiner's assertion that Adrangi-Hospodor substantially discloses the claimed invention as explained above in connection with claim 1. Given that claims 5,6 and 8-10 depend from claim 1, they would not have been obvious for the same reasons as claim 1.

With respect to claim 5 in particular, the additional teaching of Strandberg on transmitting edge node status is different than the processing of an incoming package of "where the package is a command package and is transmitted through a back channel." Strandberg does not disclose a back channel, nor does Strandberg disclose processing a command package at an edge node. *In re Antonie* points out that the properties of the subject matter inherent in the specification must be considered along with the claims. The Edge Node section of the Detailed Description of the Figures in Applicants' specification states the following with respect tocommand package:

> "If the package is a command-containing package, then the package information file may contain one or more commands and, depending on the type of command, additional information needed for executing the command or commands such as, for example, a listing of files contained in the packge which are necessary for performing an update. In other embodiments, the information listing may not contain actual commands and instead may include a listing of files within the package that contain the commands and any additional information relevant to executing commands."

None of Strandberg, Adrangi, or Hosopodor discloses any implementation of executing commands from a command package, let alone Applicants' method. Furthermore, none of them discloses a command package that is transmitted through a back channel.

Claim 19 depends on claim 12 through claims 15 and 17. Consequently, claim 19 is not obvious for the same reasons as claim 12 is not obvious.

In rejecting claims 8-10, the Examiner asserts, "Adrangi-Hospodor-Strandberg further discloses the package is a command package that includes a command to request for the edge node to update is operational software and the package is a command package that includes a deletion command and is sent from the NOC."

Neither Adrangi's disclosure of remote management nor his disclosure of a pruning function for stored files based on popularity constitutes the specific limitations of the command package processing as disclosed in Applicants' claims 8-10 and discussed in detail in Applicants' specification. As stated above, Adrangi has not stated a method for commanding or managing his edge POPs. Strandberg's disclosure regarding status propagation is also different from Applicants' command package processing. Furthermore, since claims 8-10 depend from claim 1, they are not obvious for the same reasons as claim 1.

Therefore, for the reasons stated above, Applicants respectfully request reconsideration of claims 5, 6, 8-10 and 19.

Conclusion

For the foregoing reasons, Applicants submit that the Examiner's rejection the claimed inventions was incorrect and the claims should be allowed.

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